



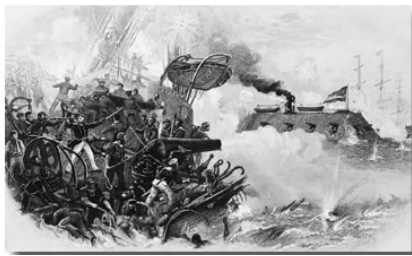
The Age of Iron



Dawn of the Modern Navy

In 1822, a new naval theory was advanced by French General Henri J. Paixhans. General Paixhans proposed that the day of the wooden ship was through and the time had come for the building of ironclad ships. The Europeans took the lead in this new concept with vessels like the *GLORIE* and *WARRIOR*. It would take the drums of war to bring the ironclads to the Western Hemisphere. On October 12, 1861, the first ironclad in the west was launched. The *CARONDELET* slid quietly into the muddy waters of the Mississippi, forever changing the Navy. The River Class boats with their rifled cannons that used shell instead of shot, with their steam engines and iron plating, represented the dawn of the modern Navy.

A New Era in Naval Warfare



Sinking of the USS Cumberland by the ironclad Virginia at Hampton Roads

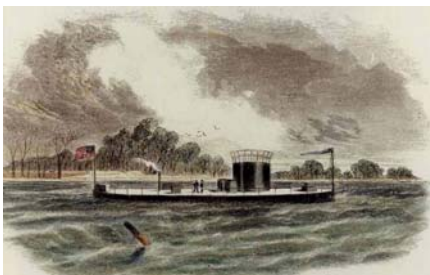
This modern flotilla was tested over and over during the Civil War. Whether it was the successful attacks by the ironclads on Ft. Henry and Ft. Donelson, or the running of the C.S.S. *ARKANSAS* through Admiral Farragut's wooden ships anchored at Vicksburg, the ironclads of the western frontier proved their strength. These boats announced the age of iron; the U.S.S. *MONITOR* and C.S.S. *VIRGINIA* would secure its future.

The future of the ironclads was not written off the coast of Europe where the first ironclads were built, but off the American coast. It was written at Hampton Roads, Virginia, where one of the most celebrated naval battles took place. There a converted frigate would meet a newly designed ironclad called a monitor.

The stage for this great naval battle began in April, 1861, with the destruction of the U.S. Naval Yard at Norfolk, Virginia. The Confederates were able to confiscate the remains of a U.S. Navy frigate, and using the hull of the U.S.S. *MERRIMACK*, the Confederate Navy constructed an ironclad. The majestic sailing ship had been stripped to her lowest deck and was relatively easy to convert to a rather ugly, but deadly, ironclad.

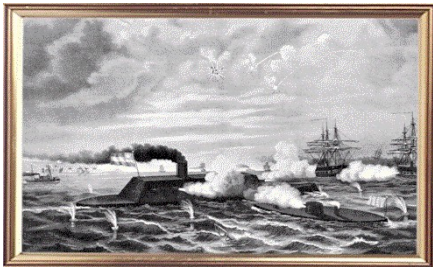
Reports in the North of the conversion of the U.S.S. *MERRIMACK* to the C.S.S. *VIRGINIA*, set into motion the development and construction of the first monitor-type ironclad. Constructed in 100 days, the U.S.S. *MONITOR* was towed to Hampton Roads. Due to a storm in the Atlantic, the *MONITOR* arrived too late to help the wooden vessels of the Union Navy. The *VIRGINIA* destroyed the U.S.S. *CUMBERLAND* and the U.S.S. *CONGRESS*. The *VIRGINIA* also succeeded in damaging the U.S.S. *MINNESOTA* and the tug, *ZOUVAE*. The Union lost 280 men, while the Confederates lost only 27. The Confederates rejoiced in the fact that they now had the means to open the Union blockade. Shipments of food and war supplies would be able to enter the James River under the escort of the C.S.S. *VIRGINIA*.

Unknown to the celebrators, however, the U.S.S. *MONITOR* slowly approached Hampton Roads. As the *MONITOR*'s crew heard the parting shots of the *VIRGINIA* on the *MINNESOTA*, the Union ironclad silently came to anchor next to the big frigate to await the morning. Tomorrow, her crewmen thought, should be an exciting day!



USS Monitor

“Now Comes the
Reign of Iron...”

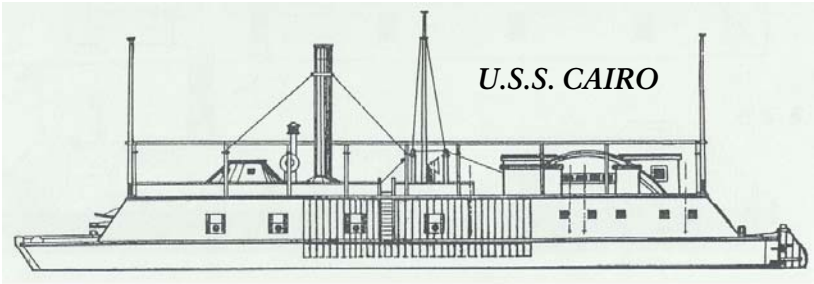


Sunday morning, March 9, 1862, ushered in a new era of naval warfare. The engagement between the *U.S.S. MONITOR* and the *C.S.S. VIRGINIA* was at such close range the ships would unintentionally touch while maneuvering to fire. The battle lasted four hours, with neither side able to claim a clear victory. This first fight between ironclads would affect all the world's navies. As Captain Dahlgren phrased it:

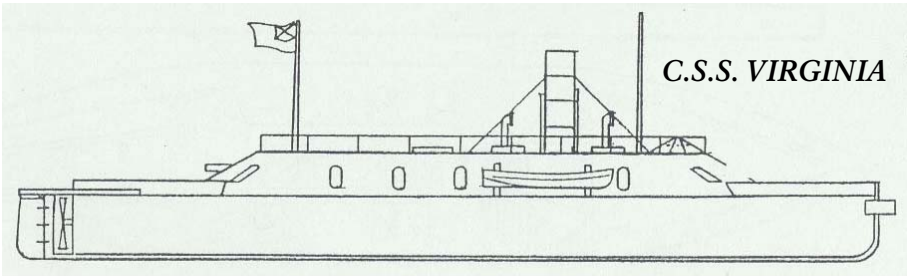
"Now comes the reign of iron -- cased sloops are to take the place of wooden ships."

Even today, the tough little ironclads of the Civil War live on in the warships of the modern Navy. The armor plating, internal combustion engines, rifled guns and revolving turrets are found in nearly every fighting vessel that sails the seas. As you stand on the gundeck of the *U.S.S. CAIRO*, you are part of a revolutionary craft that ushered in the age of iron. This boat is a monument to the men who dreamed of the future and the spirit of adventure that compels people to serve at sea no matter what the hazard.

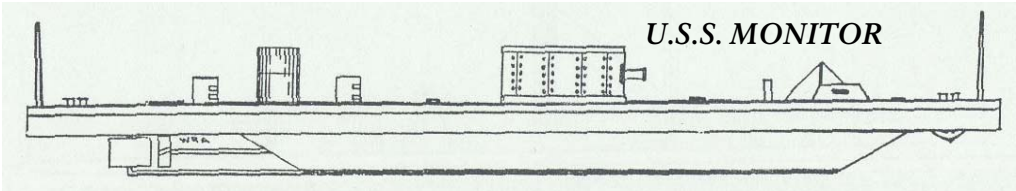
Comparison of
the Famous
Ironclads



	<i>USS Cairo</i>	<i>CSS Virginia</i> <i>(USS Merrimack)</i>	<i>USS Monitor</i>
<i>Engineer:</i>	James B. Eads	John Porter	John Ericsson
<i>Where Built:</i>	Mound City, IL	Portsmouth, VA.....	Brooklyn, NY
<i>Cost:</i>	\$101,000.....	\$110,000	\$195,000
<i>Time to Build:</i>	4 months.....	9 months	4 months
<i>Commissioned:</i>	16 January 1862.....	March 1862	25 February 1862



	<i>USS Cairo</i>	<i>CSS Virginia</i> <i>(USS Merrimack)</i>	<i>USS Monitor</i>
<i>Length:</i>	175.0 feet	262.9 feet	172.0 feet
<i>Width:</i>	51.2 feet	51.4 feet	41.0 feet
<i>Draft:</i>	6.0 feet	22.0 feet	11.4 feet
<i>Displacement:</i>	888 tons.....	3500 tons.....	776 tons
<i>Speed:</i>	6 knots	6 knots.....	8 knots



	<i>USS Cairo</i>	<i>CSS Virginia</i> <i>(USS Merrimack)</i>	<i>USS Monitor</i>
<i>Armor Thickness:</i>	2-1/2 inches.....	4 inches	8 inches
<i>Boilers:</i>	5 steam	4 steam	2 steam
<i>Armament:</i>	13 guns	10 guns	2 guns
<i>Sunk:</i>	12 December 1862	11 May 1862.....	31 December 1862
.....	Yazoo River, MS	Craney Island, VA	Cape Hatteras, NC
.....	By torpedo.....	Destroyed by crew to prevent capture	Sunk during a storm while being towed by the <i>USS Rhode Island</i>
<i>Casualties:</i>	6 injured	None.....	90 drowned